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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,046	11/24/2003	Vladimir A. Fedchun	1568-003	2332

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EXAMINER	
YEE, DEBORAH	
ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/719,046	FEDCHUN ET AL.	
	Examiner	Art Unit	
	Deborah Yee	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2005 and 29 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 to 3 and 8 to 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

3. The newly amended limitation "eliminating the use of the scare high cost alloying elements cobalt, nickel and molybdenum " recited by claims 1 to 3 and "without the scarce high cost alloying elements cobalt, nickel and molybdenum" recited by claims 9 to 11 clearly raises a new matter issue since there is no clear descriptive support that exist in the specification. Note that lines 12-13 on page 2 of applicant's specification only has support to" reduce scare alloying elements such as cobalt".

4. The newly amended limitation "less than 0.65% copper" recited by claim 8 clearly raises a new matter issue since there is no clear descriptive support that exist in the specification wherein copper can have a lower limit of zero. Note lines 16 to 21 on page 2 of applicant's specification only has support for "0.4 to 1.0%Cu" and " 0.55 to 0.70%Cu".

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 to 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. To clearly define the invention, it is recommended to recite vanadium and titanium in a Markush group. Instead of "at least one of the transitional elements, vanadium in about 0.1 to 1.0% by weight and titanium in about 0.1 to 0.65% by weight", it is recommended to use language such as ---at least one transitional element from the group consisting of vanadium in about 0.1 to 1.0% by weight and titanium in about 0.1 to 0.65% by weight---.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1 to 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dubois (US Patent 6,699,33) or Philip (US Patent 3,713,905) alone or in view of ASM Table 1.1 for the reasons set forth in the office action dated 5-13-05.

Response to Arguments

10. Applicant's arguments filed 8-18-05 and 8-29-05 have been fully considered but they are not persuasive. It was argued that Dubois is a carburizing steel composition, unlike the claimed inventions, containing substantial amounts of Co and Mo and up to 0.18% carbon prior to carburizing. It is the examiner's position that applicant also teaches a carburizing steel as evident by claim 8. Also prior art steel contains at most 4% Co which has a lower limit of zero and need not be present. In regard to Mo, it would not be excluded from applicant's claims 5 to 8 because claims do not actively recite eliminating or omitting Mo. Moreover, Dubois on lines 35 to 40 of column 3 discloses using Mo to maintain elevated temperature hardness, and it would be well within the skill of the artisan to omit Mo with the consequent loss of its function which would not be a patentable distinction. Dubois teaches a steel alloy containing 0.06 to 0.18% C and after carburizing, having over 0.50% on steel surface, and hence would meet applicant's claims 1,3 and 11 to 14 reciting C with no wt% range or no carbon, and would closely approximate applicant's other claims reciting C at 0.35 to 0.50%, 0.22 to 0.32%, 0.32 to 0.55%.

11. It was argued that Philip steel contains Mo, and Cu in a range of 0.65% and higher. All the cited examples in the description show significantly higher Cu (about 2%) and a Si to Cu relationship which is not deemed important. It is the examiner's position that prior art Mo range of 0.25 to 1.5% is not excluded from applicant's claims 5

to 8 because claims do not actively recite eliminating or omitting Mo. Moreover, Philip on lines 37 to 40 in column 2 teaches adding small amounts of Mo to improve impact strength and toughness, and it would well within the skill of the artisan to omit Mo with the consequent loss of its function which would not be a patentable distinction. In regard to Cu, Philip teaches 0.65 to 4% and therefore overlaps with applicant's claimed range of 0.4 to 1%,0.4 to 0.65%, 0.4 to 1%, and 0.5 to 0.7%. Even though specific prior art examples contains Cu amounts outside the ranges recited by pending claims, such would not be a patentable difference since rejection is based on obviousness and not anticipation. Moreover prior art examples such as Examples 3 to 5 in column 5 have Cu:Si ratios of about 2.0 and are within the range of 1.2 to 2.5% recited by claim 2. Also note example 5 in Table II of column 6 has a hardness of 54.5HRC, a yield strength of 207.6Ksi and high toughness values similar to those recited by claim 11.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Deborah Yee
Primary Examiner
Art Unit 1742

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